

ABSTRACT

A new method for design and scale-up of thermocatalytic processes is disclosed. The method is based on optimizing process energetics by decoupling of the process energetics from the DRE for target contaminants. The technique is applicable to high temperature thermocatalytic reactor design and scale-up. The method is based on the implementation of polymeric and other low-pressure drop support for thermocatalytic media as well as the multifunctional catalytic media in conjunction with a novel rotating fluidized particle bed reactor.